

08/854,349



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/854,349	05/12/97	EBERHARD	J 69568/105

LM32/0408  
FOLEY & LARDNER  
3000 K STREET N W SUITE 500  
P O BOX 25696  
WASHINGTON DC 20007-8696

EXAMINER	
JOHNS, A	
ART UNIT	PAPER NUMBER
2721	5

DATE MAILED: 04/08/98

Please find below a communication from the EXAMINER in charge of this application.

Commissioner of Patents

See attached Office Action.

**Andrew W. Johns**  
**Primary Examiner**  
**Art Unit 2721**

# Office Action Summary

Application No.  
08/854,349

Applicant(s)  
Eberhard et al.

Examiner  
Andrew W. Johns

Group Art Unit  
2721



☒ Responsive to communication(s) filed on 5/12/97

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-7, 12-18 and 20-23 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1, 4-6, 12, 15-17 and 20-23 is/are rejected.

☒ Claim(s) 2-3, 7, 13-14 and 18 is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 C.F.R. § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the contiguity evaluation process required by each of the independent claims must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. § 3.73(b).

3. Claims 20 and 23 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,712,926 to Eberhard et al. in view of Cline et al. (US 4,791,567).

Claim 20 of the instant application and claim 1 of the patent to Eberhard et al. both set forth a method of detecting an explosive that includes scanning a three-dimensional volume to determine the density of each of a plurality of voxels representing the three-dimensional volume (step (a) in each case), connecting and labeling voxels of the plurality of voxels having similar densities (step (b) in

each case), determining the volume and/or mass of each contiguous region of voxels having similar densities (step (c) in claim 20 of the instant case, which corresponds to steps (c) and (e) of claim 1 in the patent), and comparing the volume and/or mass to at least one threshold and identifying each region that exceeds the threshold as potentially containing an explosive (step (d) of claim 20 in the instant application, which corresponds to steps (d) and (f) of claim 1 in the patent). However, claim 1 of the patent fails to stipulate the use of the evaluation process set forth in step (b) of the instant application. More specifically, the claim in the patent does not require that, for a given voxel, voxels in the same plane as the given voxel, and in planes above and below the given voxel, are compared to the given voxel in order to perform the connecting and labeling.

Cline et al. teaches the connecting and labeling voxels that have contiguity. Specifically, this connecting and labeling is accomplished by comparing voxels within a plane for contiguity (16 in Figure 6; column 12, lines 6-16) as well as by comparing voxels from planes above and below the initial plane (22 in Figure 6; column 12, lines 19-25). Furthermore, Cline et al. teaches that this method of determining connectivity in three-dimensional data sets provides for higher processing speeds (column 13, line 68 through column 14, line 5). Therefore, it would have been obvious to one of ordinary skill in the art to implement the connecting and labeling operation recited in claim 1 of the patent to Eberhard et al. using the connectivity processing of Cline et al. so as to achieve higher processing speeds, resulting in shorter delays in providing data to the user.

Finally, claim 23 of the instant case requires that the evaluation process further process differences between the voxel properties for the different planes. The claims of the patent to Eberhard et al. also fail to require this feature. However, Cline et al. inherently processes such differences. Specifically, when such differences are determined, no connectivity will be determined between those voxels. Therefore, the claim language of the instant case would have been obvious to one of ordinary skill in view of the claim language of the patent, in view of the prior art.

***Claim Rejections - 35 U.S.C. § 103***

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4-6, 12, 15-17 and 21-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cline et al. (US 4,791,567), in view of Kennedy et al. (US 5,185,809).

Cline et al. teaches a method and apparatus that radiation scans a three-dimensional volume to determine the property of each of a plurality of voxels in the volume (10 in Figure 6); and identifies pixels having similar values using a contiguity evaluation process, wherein for a given voxel, voxels in the same plane, as well as in planes above and below, are compared to the given voxel to determine contiguity (16 & 22 in Figure 6). Furthermore, Cline et al. also teaches that the radiation scanning is performed using x-rays (CAT scan of 10 in Figure 6 uses x-rays), and that differences between voxels in different planes are used to determine contiguity (no contiguity is determined when differences exist). However, Cline et al. fails to clearly teach that the contiguous group of voxels be identified as potentially containing an object of interest when the group has a predetermined characteristic value.

Kennedy et al. teaches a method and apparatus for evaluating three-dimensional data that includes the evaluation of groups of voxels to determine the presence of an object when predetermined characteristics are present (see the abstract). More specifically, Kennedy et al. uses volumetric measurements to detect the objects. Because Kennedy et al. teaches that this processing allows the data to be better evaluated automatically by eliminating subjective determination of these features by a user (column 1, line 65 through column 2, line 5) and because Eberhard et al. teaches

a rapid extraction of contiguous regions in such three-dimensional data, it would have been obvious to one of ordinary skill to use the object detection of Kennedy et al. with the contiguity determination of Cline et al. so as to improve the speed and performance of both systems. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention.

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Johns whose telephone number is (703) 305-4788. The examiner can normally be reached on Monday-Friday from 6:30 to 3:00. The examiner may also be contacted by e-mail using the address: [andrew.johns@uspto.gov](mailto:andrew.johns@uspto.gov).

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number for this Art Unit is (703) 308-5397.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

A. Johns  
March 30, 1998



ANDREW W. JOHNS  
PRIMARY EXAMINER

\*\*\*\*\*

## IMPORTANT NOTICE

\*\*\*\*\*

Effective November 16, 1997, the Examiner handling this application will be assigned to a new Art Unit as a result of the consolidation into Technology Center 2700. See the forth coming Official Gazette notice dated November 11, 1997. For any written or facsimile communication submitted **ON OR AFTER** November 16, 1997, this Examiner, who was assigned to Art Unit 2616, will be assigned to Art Unit **2721**. Please include the new Art Unit in the caption or heading of any communication submitted after the November 16, 1997 date. Your cooperation in this matter will assist in the timely processing of the submission and is appreciated by the Office.